

Rejection Under 35 U.S.C. §112, First Paragraph

The Office Action rejects 25 and 27-45 under the written description requirement of 35 U.S.C. §112, first paragraph. Applicants respectfully traverse the rejection.

Claim 25 recites "[a] method for depositing a thin film on a substrate, the method comprising: heating the substrate at a temperature below 250°C; introducing a pre-vaporized reactive titania CVD precursor into a gas flow flowing through a coating region; applying energy to generate an atmospheric pressure glow discharge plasma in the coating region and using the atmospheric pressure glow discharge plasma as a major source of reaction to deposit the thin film on the substrate heated at the temperature below 250°C; and performing a post treatment on the thin film using an atmospheric glow discharge plasma to modify properties and structure of the thin film; wherein a water vapor level is controlled to be from 0.05% to 1%" (emphasis added).

The Office Action asserts that the present specification fails to disclose the feature of 0.05% water vapor or its criticality. *See* Office Action, page 2. Applicants respectfully disagree.

The present specification discloses

To achieve good quality optical and mechanical properties in the film of titania grown using this approach, and also to achieve photo-active titania, we have found it necessary to carefully control the plasma and chemical reactions occurring. An example of this is with water vapour levels in the reaction chamber to avoid unwanted reactions.

See present specification, page 5, lines 8 to 12. That is, the present specification generally indicates that controlling water vapor during practice of the method of claim 25 is desirable.

Claim 43, as originally filed, recites "... the water vapour levels being controlled preferably below 1% and more preferably below 0.1." Thus, original claim 43 supports carrying out the method of claim 25 at particular water vapor values (1%, 0.1%) and in particular ranges of water vapor values (below 1% and below 0.1%). The Examples of the

present specification include iterations of the presently claimed method carried out "at levels of humidity deliberately set at approx 1% and at 0.05%." *See* present specification, page 10, lines 19 to 20. One of ordinary skill in the art would appreciate that humidity and the amount of water vapor are interchangeable. Thus, the Examples of the present specification provide specific disclosure of carrying out the method of claim 25 at particular water vapor values (1%, 0.05%). Applicants note, in particular, that a method according to the present invention was carried out at the objected to parameter in the Examples.

As is well-settled, fundamental factual inquiry underlying a written description determination is whether the specification conveys with reasonable clarity to those skilled in the art that, as of the filing date sought, applicant was in possession of the invention as now claimed. *See, e.g.*, MPEP §2163.02. The present specification, particularly in view of the excerpts described above, fully supports the feature of "a water vapor level is controlled to be from 0.05% to 1%." *See also* MPEP §2163.05.III (citing *In re Wertheim*, 541 F.2d 257, 191 USPQ 90 (CCPA 1976)).

Claims 27-45 are rejected solely for their dependency from claim 25.

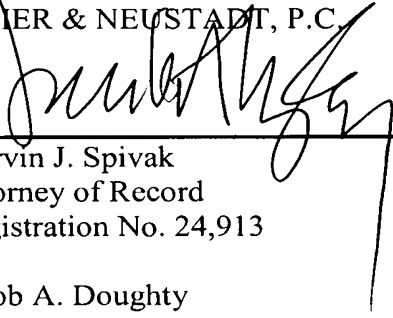
For the foregoing reasons, claims 25 and 27-45 are fully supported by the specification as filed. Accordingly, reconsideration and withdrawal of the rejection are respectfully requested.

Conclusion

For the foregoing reasons, Applicants submit that claims 25 and 27-48 are in condition for allowance. Prompt reconsideration and allowance are respectfully requested.

Respectfully submitted,

OBLON, SPIVAK, McCLELLAND,
MAIER & NEUSTADT, P.C.



Marvin J. Spivak
Attorney of Record
Registration No. 24,913

Customer Number

22850

Tel: (703) 413-3000
Fax: (703) 413 -2220
(OSMMN 08/07)

Jacob A. Doughty
Registration No. 46,671